Marine Biol Lab.
Woods Hole, Mass.
July 27, 1956

Dear Luca:

I was very pleased to receive your letter and note on transductional linkage, which followed us here. Especially so, because I was just about (sic, I mean today) to start work on a very similar theme, and it would have been a shame to duplicate the labor. (Did you see my note in 'Microbial Genetics Bulletin' on "Transduction Mapping", or had I sent you a copy I thought to add a few more more remarks (not as much detail as your analysis) about various models of incorporation, so as to fill out the note and then send it someplace like the American Naturalist.)

My answer to your last question is yes, it definitely should be published, and the Am. Nat. would probably be the most suitable place for it. The only question I have now is whether you would consider it advisable to coordinate our efforts, either as common or correlated publications; before making any more detailed comment on the form of your note, I would want to know how you feel about this.

I have not felt that present experimental data allow a decision about the fragments, with regard to a) random size; b) fixed size and random termini; c) fixed size and fixed termini, nor in any detailed way about the crossover mechanism, whether a) random single breaks, the odd-numbers being lethal, or b) segmental interchanges of random length -- with some auxiliary distribution of numbers of segments. However, we have no hope of making proper decisions without a proper development of theoretical predictions from each case. My hope was to explore the major differential consequences of each model, rather than make too detailed an analysis from any one. My own predilections are for fragments of more or less fixed size; I can't decide about the termini. In any case, the fragments are probably large compared to the crossover lengths, ie., the mean number of crossovers per fragment length is not small. For example, in $Fla_1^+ H_1^a \times Fla_1^- H_1^b$ almost all of the initial cells (directly isolated) show effects of H_1^a, although only a few of the ultimate segregants are H_1^a. Similarly, we have yet to identify heterogenotes in which one Gal+ is present and any other is deficient.

Zinder and I made some grammatical errors on the first paper which I hope can be corrected. "Transduce" is a transitive verb whose object is the fragment, not the cell. I would say that mutant (direct clones are transformed by phage which transduces fragments (exogenotes) to them.

We have had word of the Ciba affair, and are trying to work out possibilities of going, if they will not interfere with the Australian expedition. If you will be in London, we will redouble our efforts.

By the time you get this, we will probably have started again for home, and will remain in Madison thereafter.

Yours,

JLederberg